NORTH SHORE NEWS

AUT UNIVERSITY

Budding scientists get a taste of what they can achieve

Food scientist Barbara Warne in the AUT food laboratory with students, Megan Hunter from Gore and Henry Read from Ashburton

HIGH ACHIEVING science and technology students from around New Zealand gathered in Auckland this month for the Rotary National Science and Technology Forum utilising partnerships with AUT University, University of Auckland and Massey University.

Into its 20th year the Forum's major purpose is to grow science graduates for New Zealand by exposing students to recent developments in science and technology and promoting the many and varied science-based career opportunities.

Forum director and Milford Rotary Club member Peter Best says it's all about opening students' minds up to the possible exciting careers that lie ahead of them.

"Many arrive wanting to become doctors or physiotherapists but leave contemplating robotics, nutrition or biomedical science," he added.

All 156 16-18 year old students spend two weeks in Auckland and attend two three-hour sessions a day hosted by the three 'Auckland' universities. They experience 15 different science-based emersion modules which illustrate the breadth of a science career in New Zealand.

Modules include molecular biology, physics, chemistry, applied maths, biological science, psychology, biomedical science, computer aided design and sports science.

"It's awesome. I know what I want to do with my life now," says Claire Marsh from Wellington. "Speaking one-on-one with one of the lecturers helped me understand that it's ecology for me!"

Being able to see the special equipment they use for sports science testing was very cool. It's confirmed my desire to be a sport scientist," says Craig Fowler, from Katikati.

One of the three founders of the event was AUT University Professor Roy Geddes. In memory of his role an award is given to two year 13 students each year to enable them to attend the London International Youth Science Forum.

Research to benefit Olympic hopefuls

SPANISH AQUATICS biomechanist Antonio Cala, is about to embark on his PhD at AUT University supporting New Zealand's Olympic swimming and triathlon teams, working with the NZ Academy of Sport North Island (NASNI) at the Millennium Institute.

"For someone in my field this is the ultimate place to come," he says. "It produces great athletes and the approach is both professional and collaborative."

As Sport North Island's aquatic biomechanist for the next four years he will provide insights to New Zealand's high performance swimming and triathlon coaches and athletes as they prepare for the London Olympics. He will look specifically at improving swimming techniques and conduct applied research at AUT to assist this.

"It's a unique situation," he says. "Being able to conduct research and then see your research benefit an athlete first hand is just the best feeling."

Cala uses underwater cameras and velocity meters to measure the pressure made by a swimmer's stroke to better understand an athlete's strengths and weaknesses.

"Perfecting technique can shave off a few seconds and make the difference between winning and losing."

Previous to enrolling with AUT, Cala worked with the Spanish national triathlon and swimming teams while also lecturing in sports at Madrid University.

AUT physiologist puts New Zealand fire-fighters through their paces

AUT UNIVERSITY physiologist Joe McQuillian sat nervously as the team of six New Zealander fire-fighters he had been training for the better part of eight months competed in the World Fire-fighter Challenge in Las Vegas late last year.

Approached in April by New Zealand's Team Black Fire, McQuillian was tasked with increasing the team's fitness and strength to gain entry into the competition.

Competitors are required to carry out fire-fighting related activities such as running up six flights of stairs, simulated forced entry through a door, dragging a hose full of water, dragging an 85kg dummy for 30 metres and lifting hose reels in minimal times.

Referred to as the 'toughest two minutes in sports', this year's winner and three-time World Champion American Brandon Cunningham finished in 1 minute 21 seconds.

McQuillian delivered nutritional advice, strength and fitness training, running numerous assessments throughout the year to ensure his fire-fighters would gain entry and have a shot at placing.

The challenges in programming for such a sport include increasing aerobic fitness while also building strength and power, says McQuillian.

For motivation he included spin classes and overnight team building sessions with Navy personnel.

Each team member recorded a personal best and McQuillian has signed up to train this year's entry.

PARTICIPANTS of the Rotary National Science and Technology Forum spent two weeks of their school vacation engaged in a rigorous academic programme. Previous participants, a few years their senior, provided pastoral care and mentoring. In addition to a passion for science, most are active in community organisations and many perform with distinction in the arts, sporting and cultural endeavours. They are keen to continue learning and make a positive difference to the world. How different this vision of youth is to the distorted caricature we see daily projected through the mass media!

Currently, we are in the midst of enrolment, with unprecedented numbers of applicants. Owing to a Government cap on student numbers we have no option but to turn away many who meet entry criteria. This includes programmes where there are pressing workforce needs. Given the current recession, for many the alternative will be unemployment. I think of those young, eager faces. Surely we can do better than this? While investing in major infrastructure is a prudent measure to employ people and lay foundations for future economic recovery, so too is investing in our youth and others who seek a university education.

Max Abbott, Pro Vice-Chancellor, North Shore